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# Sheep Production Without the Wool Act

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## Summary

The economic impact of the Wool Act funding phaseout will be felt by the entire U.S. sheep industry. In operations where wool has been a primary source of income in the sheep enterprise sharply higher wool prices and increased return from lamb production may be necessary just to maintain gross income. Many suggestions have been offered as means to improve the economic picture in the absence of a wool incentive program, yet shifting toward more lamb production is the most common response. However to develop a flock plan for the future producers must first look at the current management system. To be competitive in the future we must assess where the management system is today to determine the course of action to remain competitive and profitable in the future.

Often a major advantage cited for sheep production is that it gives producers two crops, lamb and wool. Producers should set goals to maximize the net return on both commodities. Better informed management decisions based on objective measures of wool quality, animal growth, ewe productivity, and others could give producers control over production practices which lead to improved flock return.

## Introduction

Sheep producers across America have discussed the implications of the Wool Act funding phase-out on the U.S. sheep industry and in their operations. Wool is a very important source of income in a sheep operation. In South Dakota wool generally accounts for 20% of gross flock income. Depending on the type of operation and wool quality it could represent 40% or as little as 5% of flock revenue. From

1988-92 wool incentive payments represented over 50% of the wool income for those producers who chose to participate in the program. The proportion of income derived from the wool incentive program during this period was a historic high, a direct reflection of low wool prices.

The Wool Act of 1954, the federal program solely supported by import tariffs on wool, has functioned as intended with the purpose to protect U.S. sheep producers from low wool prices caused by global oversupply and unfair foreign marketing practices. For more than 40 years the Wool Act has given sheep producers a cushion to withstand periods of low wool prices, but as most people in the sheep industry know this program is scheduled to be completely phased-out after 1995.

Most producers recognize that for the sheep enterprise to be viable more revenue must be generated from both lamb and wool in the absence of the wool incentive program. For many producers the economic impact of the wool incentive program should be assessed for their operation before major changes are made in genetics or flock management plans. The economic impact of the wool incentive program for a typical breeding ewe in a South Dakota flock during the period 1988-92 has been calculated in the example below.

## Economic Impact of the Wool Incentive Program

During the period from 1988-92 the average wool incentive level was 180% with the cash price for grease wool produced in South Dakota at 65 cents per pound. Using this information along with the average percent lamb crop weaned (120%) in the state we can determine the economic impact of the wool incentive

payment to a South Dakota sheep producer over this period. For instance let's assume a typical ewe produces a 10-lb fleece. Therefore, the cash value is \$6.50, the wool incentive for the fleece and an unshorn lamb incentive payment on 1.2 eighty pound feeder lambs adds \$16.00, for a gross wool income of \$22.50. The net difference after shearing costs are deducted is \$14.00, assume a \$2.00 per head shearing cost. If the grease wool price is \$1.00 per pound with the same level of wool and lamb production the difference would be \$22.30; at \$0.25 per pound it is \$8.80. Obviously at each grease wool price level the producer is faced with a significant loss of income once the contribution from the wool incentive program is removed.

The question many producers are asking at this time is "How can the dollars returned per ewe be increased in the future to offset the impact of the wool act funding phaseout?" Clearly the simplest solution to some would be to wait for a dramatic increase in the prices received for lamb and wool. Another possibility is to increase the pounds of these commodities marketed per ewe. Yet another is to improve the quality of the commodities to enhance value. Producers will need to take advantage of both lamb and wool income opportunities in the future to remain profitable. Whether producers shift to more lamb production or enhance product quality will depend on the competitive advantage in the production process. Environmental conditions, type of operation, market opportunities, feed resources, production costs, and others will be factors to consider. Let's now take a look at the market price levels for lamb and wool or modifications in production practices which could help producers offset a \$14.00 per ewe loss in revenue.

#### INCREASE THE RETURN ON WOOL

What would it take to increase the value from the wool produced per ewe by \$14.00? Depending solely on higher prices the grease wool value would have to rise by \$1.40 assuming a 10-lb average clip per ewe (10 lb x \$1.40 = \$14.00). The chance that grease wool prices would increase by \$1.40 per pound in the near future seems rather low based on the wool market situation worldwide, although there has been higher prices reported recently still not

anywhere close to a \$1.40 per pound increase. Some producers could gain significant improvement in the net return per ewe from wool by improving on the grade. However, this may entail significant changes in the flock such as purchasing ewes with higher wool quality (finer wool) or through selection of ewes and rams which combine to produce a finer wool grade. Flocks which currently produce medium or coarse wool may benefit the most by improving on the grade since the price advantage for finer wools over other grades over the past 5 years has been \$0.50 to 1.00 per pound (grease basis). For flocks which already produce top quality fine wool proper preparation techniques may result in a slightly higher value per pound for the clip.

In the future to improve the return from wool the producer will need to evaluate the wool clip based on the total dollars returned per ewe rather than simply the price per pound or the grade. Very simply this means the pounds of clean wool times the price. Producing high yielding heavy fleeces within a desirable range of grades will need more attention from producers to improve the return per ewe. Improvement practices will need to focus on selection criteria which offer objective measures of economically important traits such as pounds of clean wool produced as well as staple length, grade and it's variability. Results from the South Dakota Ram Testing Program at Newell, SD, show tremendous difference in the pounds of clean wool produced in wool breed rams. The pounds of clean wool has ranged from 8 to 14 (365-day adjusted wt). Objective measures of economically important wool traits will continue to be important tools for producers in wool improvement.

#### GREATER EMPHASIS ON LAMB PRODUCTION IN THE FUTURE

Many producers are expected to rely on higher returns from lamb production to help offset the loss of income associated with the phaseout of the wool act funding. Increased flock return from lamb could result from higher market prices and/or increased ewe productivity meaning more pounds of lamb sold per ewe exposed. To cover a \$14 loss of income how much would the market price for lamb have to

increase? Using the ewe productivity described earlier where a ewe weans 1.2 lambs weighing 80 lb, the feeder lamb market price would have to be increased by roughly \$.15 per pound (\$14.00/96 lb of live weaned lamb) to cover the shortfall. Therefore, if feeder lamb prices averaged \$.60 per pound over the past 5 years, it would have taken \$.75 per pound on feeder lambs to generate the same level of income per ewe. Most people who raise sheep hope that lamb prices return to a favorable price range and once achieved can be sustained. However, prices are not controlled by individual producers. In contrast ewe productivity, expressed as the pounds of lamb weaned per ewe exposed, can be influenced by management practices. Therefore, the producer plays an active role in the possible economic outcome rather than simply allowing price to establish profit or loss.

### Improving Ewe Productivity

How many additional pounds of lamb would a ewe need to wean to increase gross income by \$14? Calculations based on \$.70 per pound feeder lambs the pounds weaned per ewe would need to increase by 20 (\$14.00 divided by \$.70 = 20 lb of live lamb). As noted earlier the 5-year average ewe production level in South Dakota was 1.2 lambs. Using an 80-lb feeder lamb weight, on average a ewe produces 96 lb of weaned lambs. To produce 20 additional pounds of weaned lamb per ewe, 116 compared to 96 pounds, the percent lamb crop weaned would have to increase to 145%. This assumes that lamb weaning weight remains constant at 80 lb. Increasing the percent lamb crop weaned by 25 percentage points will be very difficult to achieve simply with improved management practices. However, crossbreeding systems and animal selection practices may offer producers an opportunity to increase lamb production per ewe.

### Crossbreeding (Hybrid Vigor)

Theoretically, using a terminal crossbreeding system ewe productivity could be increased by 20 lb of lamb weaned per ewe exposed with a lamb crop weaned at 123% compared to 145% if matings were straight

bred. In sheep the average effect of crossbreeding, "hybrid vigor", on the pounds of lamb produced per ewe exposed has been documented at 17.8%. Many factors contribute to the expected improvement in ewe productivity, yet the most significant are increased lamb survival and body weight gain. Crossbreeding systems include terminal crosses, rotational back crosses, 3-way and 4-way crosses.

The type of crossbreeding system(s) utilized in a flock is dependent on the goals set for the operation. For instance if producers emphasize feeder or finished lamb production and purchase replacement ewes, then a terminal crossing system would likely be a good choice. Ram selection for this terminal crossing system should be based on performance records which give evidence of superior growth traits. To fully gain the advantage of crossbreeding superior sires must be selected. The type of ewe which fits a terminal crossing system will depend on the competitive advantage the operator has for wool versus lamb production. Where the environment favors the production of high yielding fine wool, a "Western White-Faced" style ewe has a great fit; where environmental and market conditions favor pounds of lamb, a 3-way cross (white-faced) ewe developed from breeds which capitalize on superior maternal traits (milk production, prolificacy, out of season breeding) may work best. In flocks where ewes are produced for replacement purposes a straight bred and/or crossbreeding mating system(s) could be used according to the competitive advantage for wool compared to lamb production.

Crossbreeding systems and better utilization of superior genetics in the sheep industry for both wool and lamb production will become increasingly more important in the future to producers. Integrating these types of management practices in to existing operations would likely require very little adjustment or affect the level of capital needed for facilities, livestock and labor. However to successfully implement these operational modifications better records systems must be developed and utilized in flock management decisions.